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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/311,885	05/14/1999	JUNICHI SEKI	35.C13518	1854

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/311,885

Applicant(s)

SEKI, JUNICHI

Examiner

Sikha Roy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The request filed on June 3, 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09,311,885 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9- 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,869,919 to Sato et al. in view of U. S. Patent 5,831,382 to Bilan et al.

Sato et al. disclose (column 4 lines 22-40, Fig.1) an image forming apparatus (display panel 100) comprising an envelope including first substrate (face plate) 205, carrying image forming member (phosphor) 206 thereon and second substrate (rear plate) 201 carrying electron-emitting devices 202 thereon, the two substrates disposed to form a clearance therebetween. The image forming member (phosphor) is arranged so as to be irradiated with electrons emitted from the electron-emitting device to display images.

Claims 9 and 10 differ from Sato et al. in that Sato et al. do not exemplify a heat insulating member disposed on the outer surface of the envelope except for a surface region covering image forming means.

Bilan et al. in relevant art of display device disclose (column 8 lines 50-54 Fig.2) a high temperature insulating material 20 with a low coefficient of thermal expansion disposed on the surface of the backplate. The thermally insulating material creates enhanced thermal insulation thus inhibiting radiation of thermal energy from the display panel.

Regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of invention to include an insulating member as suggested by Bilan et al. disposed on the outer surface of at least one of first and second substrate of Sato et al. for enhancing thermal insulation and inhibiting radiation of thermal energy from the display apparatus.

Sato and Bilan et al. disclose the claimed invention except for the limitation reciting the insulating member disposed on the surface except for a surface region of the image forming means, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the insulating member disposed on the substrate excluding the surface of image forming region since it is known in the art that the image forming apparatus display image on this surface region having phosphor coating and must not have the insulating material disposed thereon obstructing the display.

Regarding claim 10 Bilan et al. disclose(column 9 lines 34,35 Fig.2) a heat insulating material 40 disposed on the other side of the substrate for inhibiting radiation of thermal energy from the apparatus.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include an insulating member as suggested by Bilan et al. disposed on the outer surface of both the first and second substrates of Sato et al. for enhancing thermal insulation and inhibiting radiation of thermal energy from the display apparatus.

Claims 11 and 12 essentially recite the same limitation as of claim 9 and hence are rejected for the same reason.

Regarding claims 13, 15 and 16 Sato et al. disclose (column 12 lines 24-35 Fig. 8) heat diffusing means (cooling air from the fan 817 and fins 827) formed on the back side of first substrate (the rear plate 201). It is further disclosed (column 3 lines 20-28) with this heat diffusing means the face plate and rear plate exchange heat reducing the temperature difference existing therebetween. Additionally since both the face plate and rear plate shows an even thermal distribution any differentiated thermal expansion that may exist in the rear plate and face plate can be minimized.

Regarding claim 14 Sato et al. disclose the claimed invention except for the limitation of heat diffusing means disposed on surfaces of both substrates. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the diffusing means on both the first and second substrates, since mere duplication of essential parts of the invention is

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considered within the skill of the art. *In re Harza*, 274 F. 2d 669,124 USPQ 378 (CCPA 1960).

Regarding claims 17, 19 and 20 Sato et al. disclose (column 5 lines 5-20) the thermal distribution pattern of the display pattern can be further improved by covering the face plate with a transparent thermally conductive member.

Regarding claim 18 Sato et al. disclose the claimed invention except for the limitation of heat conducting member disposed on surfaces of both substrates. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the diffusing means on both the first and second substrates, since mere duplication of essential parts of the invention is considered within the skill of the art. *In re Harza*, 274 F. 2d 669,124 USPQ 378 (CCPA 1960).

Referring to claim 21 Bilan et al. disclose (column 8 lines 52-54) the high temperature insulating material such as Pyrex glass which has thermal conductivity smaller than that of the envelope.

Referring to claims 22-25 Sato et al. disclose (column 5 lines 17-20) the heat conducting member made of a metal such as Cu or Al which has thermal conductivity larger than that of the envelope.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U. S. Patent 5,293,262 to Adachi et al. disclose display apparatus with heat-insulating member. U. S. Patent 5,677,746 to Yano, U. S. Patent 5,757,443 to Kobayashi and U. S. Patent 6,198,222 to Chang disclose display device with heat dissipating devices. U. S. Patent 6,288,489 to Isohata et al. and JP 11119666 to Yoshikawa et al. disclose plasma display device with heat conducting plate.

Contact Information

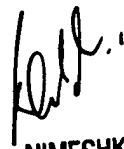
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Sikha Roy
Patent Examiner
Art Unit 2879



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800